

Remarks

Claims 15, 16 and 19 were rejected under 35 U.S.C. §112.

The Office Action requires the election of a single species. According to the Office Action the compounds of Formula I do not relate to a single general inventive concept as apparently the species lack the same or corresponding special technical feature.

The Office Action asserts that no single structural element is shared by all of the alternatives and that it is already known that "the ring nitrogen connected to two carbons in the ring is present". Applicants submit that the compounds presently claimed in claim 15 do share a common concept. The central scaffold of the claimed compounds is represented by the structural element G to which the moiety L is attached. This scaffold is mainly responsible for the spacious structure of the compounds according to claim 15 in that the cyclic structural element G necessitates certain spatial conformation leading to the specific inhibitory effect of the claimed compounds.

For sake of our argumentation, we selected the WO 99/15508 as a representative prior art document (said document has been cited in the IDS filed for the above application).

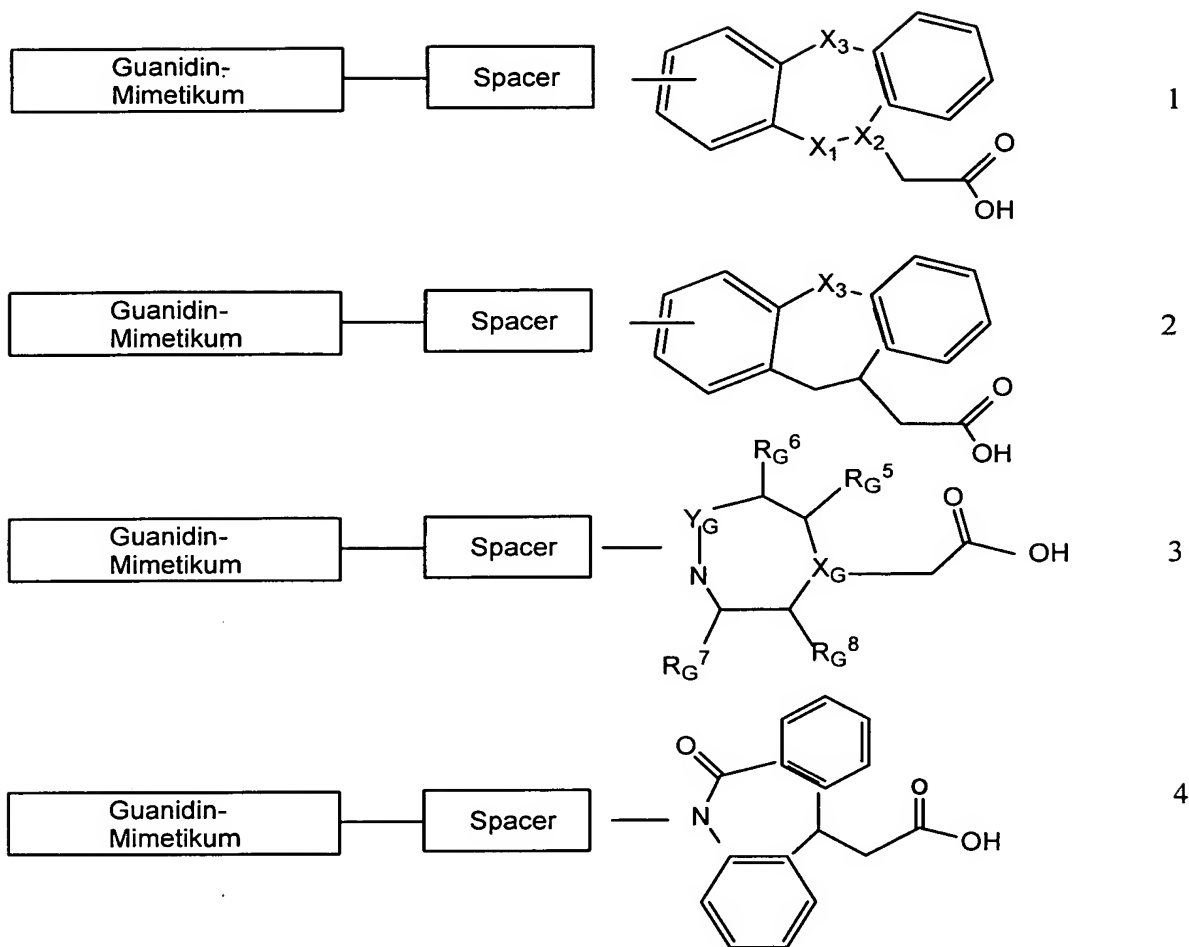
Said document discloses compounds wherein the central scaffold consists of a 7-membered carbocycle which may optionally include an oxygen atom and to which carbocycle two phenyl rings are fused. The 7-membered ring is substituted by a CH<sub>2</sub>COOH group which corresponds to the structural element –U-T of the compounds of the present application. Each of the fused phenyl rings may be also substituted. Of

particular interest is the side chain  $Y-(CH_2)_{2-3}-X$ . This chain corresponds to the structural element A-E of the present application.

The compounds of the above-mentioned prior art document as well as the compounds of the present invention may be described as guanidine mimetika. The use of guanidine mimetika is well known in the development of integrin/-vitronectine antagonists which usually consist of the following components:

Basic group (guanidine mimetikum thereof) – central scaffold – carboxylic acid. This general concept of integrin inhibitors or antagonists is derived from the so-called RGD-motive, a common recognition sequence of three amino acids (Arg-Gly-Asp (= RGD) which was published in 1987. Every known GpIIb/IIIa and vitronectin/ $\alpha\beta_3$  inhibitors are mimetika of this general motive.

The above cited document describes antagonists of integrin according to the general structure 1 or 2 shown below wherein the side chain of the guanidine mimetikum is connected to one of the fused phenyl rings. Contrary thereto the present application relates to compounds wherein the guanidine mimetikum is connected to the nitrogen atom of the central 7-membered ring as shown in structures 3 and 4.



As can be clearly taken from the above structures, the connectivity and the structural scaffold of the claimed compounds of the present invention are completely different from the compounds of the prior art. Consequently, the spatial orientation of the whole molecule and, furthermore, the orientation in view of the integrin receptor is clearly different from the spatial orientation of the structures according to formula 1 or 2. Structures 1 and 2, if imagined in a 3D vision, can be described as a chain whereas structures 3 and 4 form a cross. Thus, the spatial dimensions are different.

The above "cross-type" dimension of the claimed molecules is regarded as the common inventive concept of the claimed compound which is not known from the prior art.

For the above-noted reasons, Applicants submit that the Restriction Requirement is improper and there is unity of invention. However, pursuant to the Restriction Requirement, Applicants confirm that compound 1.B.68 shall be designated as the elected species. Claims 15, 16 and 19 read on this compound.

Applicants have canceled claim 17 and have amended claim 15 to delete the phrase relating to prodrugs that was objected to in the Office Action and to clarify the definition of  $X_G$ . Accordingly, withdrawal of the Section 112 rejection is requested.

Favorable consideration and allowance of claims 15, 16 and 19 as presently amended is respectfully requested.

If any fees are incurred as a result of the filing of this paper, authorization is given to charge Deposit Account No. 23-0785.

Respectfully submitted,



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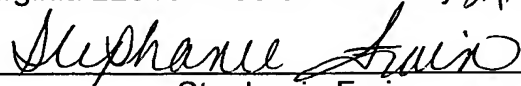
  
Stephanie Frain

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